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## TRANSMITTAL FORM

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Total Number of Pages in This Submission

|                        |                |
|------------------------|----------------|
| Application Number     | 09/850,149     |
| Filing Date            | May 8, 2001    |
| First Named Inventor   | Clifton A. Rau |
| Art Unit               | 2128           |
| Examiner Name          | Hugh M. Jones  |
| Attorney Docket Number | CARAU001       |

### ENCLOSURES (Check all that apply)

- |   |  |  |
|---|--|--|
| <input type="checkbox"/> Fee Transmittal Form<br><input checked="" type="checkbox"/> Fee Attached<br><input type="checkbox"/> Amendment/Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input type="checkbox"/> Information Disclosure Statement<br><br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Reply to Missing Parts/<br>Incomplete Application<br><input type="checkbox"/> Reply to Missing Parts<br>under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a<br>Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation<br>Change of Correspondence Address<br><br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><br><input type="checkbox"/> CD, Number of CD(s) _____<br><input type="checkbox"/> Landscape Table on CD | <input type="checkbox"/> After Allowance Communication to TC<br><br><input type="checkbox"/> Appeal Communication to Board<br>of Appeals and Interferences<br><br><input checked="" type="checkbox"/> Appeal Communication to TC<br>(Appeal Notice, Brief, Reply Brief)<br><br><input type="checkbox"/> Proprietary Information<br><br><input type="checkbox"/> Status Letter<br><br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify<br>below):<br>Stamped Return Receipt Postcard |
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Remarks

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

|              |                            |          |        |
|--------------|----------------------------|----------|--------|
| Firm Name    | Potomac Patent Group, PLLC |          |        |
| Signature    |                            |          |        |
| Printed name | Steven M. duBois           |          |        |
| Date         | December 22, 2005          | Reg. No. | 35,023 |

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| Typed or printed name | Steven M. duBois | Date | December 22, 2005 |

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Patent  
Attorney's Docket No. CARAU001

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

|                             |   |                                       |
|-----------------------------|---|---------------------------------------|
| In re Patent Application of | ) | <b>MAIL STOP Appeal Brief-Patents</b> |
|                             | ) |                                       |
| Clifton A. RAU              | ) | Group Art Unit: 2128                  |
|                             | ) |                                       |
| Application No.: 09/850,149 | ) | Examiner: Hugh M. Jones               |
|                             | ) |                                       |
| Filed: May 8, 2001          | ) |                                       |
|                             | ) |                                       |
| For: MODEL RAILROAD CONTROL | ) |                                       |
| AND DISPLAY SYSTEM          | ) |                                       |

**APPEAL BRIEF PURUSANT TO 37 C.F.R §41.37**

Commissioner for Patents  
Alexandria, VA 22313-1450

Sir:

Further to the Notice of Appeal filed on October 31, 2005 in connection with the  
above-identified application, submitted herewith is the requisite Appeal Brief and  
corresponding fee.

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(i) REAL PARTY IN INTEREST

The real party in interest is Clifton A. Rau.

(ii) RELATED APPEALS AND INTERFERENCES

To the best of the undersigned's knowledge, there are no related appeals or interferences.

(iii) STATUS OF CLAIMS

Claims 1-11, 13-15 and 18-20 are currently pending, have all been finally rejected and are all the subject of this appeal. Claims 12 and 16-17 have been cancelled.

(iv) STATUS OF AMENDMENTS

No Amendments have been submitted in this application subsequent to the Final Office Action.

(v) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to model railroads and user interfaces for facilitating operation of model railroads. Model railroad hobbyists have, for decades, laboriously constructed elaborate railroad track layouts and electrical controls for operating model trains running on their tracks. The advent of the personal computer provided a technology which can be harnessed to ease control of these systems, some of which are remarkably complex.

According to exemplary embodiments of the present invention, the model railroad hobbyist is provided with a method of creating a facsimile of the hobbyist's layout to be presented on a computer monitor, an electrical interface between the computer, computer monitor, and the track turnout motors, and software programs which provide a graphical editor which is usable to generate encoded commands for altering the status of turnouts (i.e., portions of track which can be electrically switched) in a layout. Model railroad systems and methods according to the present invention provide a rich feature set including, for example, a specific visual indication in the user interface which shows the user those portions of the track layout on which a train can currently run (and another visual indicator showing where a train currently cannot run), the use of a triac and a coil latching relay as part of the hardware interface, and an editing function in the graphic user interface that permits the user to easily reflect changes in the track layout's configuration.

Independent claim 20 describes a model railroad system comprising:

a graphical user interface displaying a representation of said model railroad system on a display, wherein a first portion of said model railroad layout is displayed using a first visual characteristic and a second portion of said model railroad layout is displayed using a second visual characteristic, wherein said first portion is selected to allow train movement thereon,

and wherein said second portion is deselected to prevent train movement thereon;

said graphical user interface including an editing function that selectively permits a user to, rotate, move, delete and join a track portion based on a type of track portion which is selected; and

an interface unit controlled by said graphical user interface to translate a command received from a computer into a motor control command for controlling at least one element within a model railroad system, said interface unit including:

a plurality of addressable units for receiving address information and data information within said command, wherein one of said plurality of addressable units that corresponds to said address information within said command translates said data information into said motor control command and outputs said motor control command, wherein said plurality of addressable units includes a set of decoders and a plurality of addressable registers, and wherein said command includes three address bits, four group bits and one data bit.

(vi) GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The ground of rejection raised by the Examiner is listed below. Appellant requests review of this ground of rejection on appeal.

a. Claims 1-11, 13-15 and 18-20 stand rejected under 35 U.S.C § 102(e) as being anticipated by Tanner et al. (U.S. Patent Number 6,445,150 B1).

(vii) ARGUMENT

The cited Tanner patent discloses an apparatus and method for controlling electrical devices such as electric trains using a computer, however, many of the features that are claimed by Appellant are not disclosed in the Tanner patent and, therefore, Tanner cannot reasonably be said to be anticipatory thereof. Specific examples of Appellant's claimed features that are not disclosed by Tanner will be shown below with respect to the claims.

**Independent Claim 20**

A model railroad system comprising:

- a) a graphical user interface displaying a representation of said model railroad system on a display, wherein a first portion of said model railroad layout is displayed using a first visual characteristic and a second portion of said model railroad layout is displayed using a second visual characteristic, wherein said first portion is selected to allow train movement thereon, and wherein said second portion is deselected to prevent train movement thereon;
- b) said graphical user interface including an editing function that selectively permits a user to, rotate, move, delete and join a track portion based on a type of track portion which is selected; and
- c) an interface unit controlled by said graphical user interface to translate a command received from a computer into a motor control command for controlling at least one element within a model railroad system, said interface unit including:
  - a plurality of addressable units for receiving address information and data information within said command, wherein one of said plurality of addressable units that corresponds to said address information within said command translates said data information into said motor control command and outputs said motor control command, wherein said plurality of addressable units includes a set of decoders and a plurality of addressable registers, and wherein said command includes three address bits, four group bits and one data bit.

In the Official Action dated July 26, 2005 it is difficult to discern how the Examiner came to the conclusion that all of the elements of claim 20 are clearly disclosed in Tanner. Comparing Applicant's claim 20 combination to the cited sections of Tanner, at least 3 claim elements are not disclosed either by themselves or as part of the entire claimed combination.

For example, with respect to claim element a), the cited sections of Tanner (col. 15, lines 21-50, fig. 15-19, col. 9, line 40 to col.10, line 19, col. 13, lines 24-35, and fig. 10-11) describe software that can enable/disable certain sections of a layout, and that a pair of polarity buttons can be used to visually control the direction of travel of the turnout.

However, that is not the same as Applicant's claim element a) wherein a first portion of said model railroad layout is displayed using a first visual characteristic and a second portion of said model railroad layout is displayed using a second visual characteristic, wherein said first portion is selected to allow train movement thereon, and wherein said second portion is deselected to prevent train movement thereon. In one exemplary embodiment, and as set forth e.g., in claim 19, the first visual characteristic is the color green and the second visual characteristic is the color red, such that the resulting train layout shown on the user interface is green in the areas where a train can currently run and red in the areas where a train currently can not run. It is respectfully submitted that the "polarity buttons" of Tanner for visual control of the direction of the turnout, is not the same as providing the claimed visual characteristics which quickly inform the user which portions of the layout are active/inactive.

With respect to claim element b) Appellant respectfully disagrees that Tanner discloses an editing function that selectively permits a user to rotate, move, delete and join a track portion based on a type of track portion which is selected. Instead, the cited portion of Tanner (figs. 3, 10, 13-19, and corresponding text) merely describes that a menu driven interface provides an easy to use interface that can be customized to conform to a specific user's layout, and that the functions of displaying a motor profile, selecting an area of the layout for enabling or disabling, and zooming exist. This general reference in Tanner is insufficient to anticipate Appellant's claimed editing function.

With respect to claim element c) while the cited sections of Tanner (col.5, lines 40-53, col. 10, lines 20-51, col. 11 lines 23-54, col. 14, lines 16-58, figs. 4A, 11 and 12) do describe using an 8-bit solenoid address and a 4-bit addressing scheme, this is not identical to Appellant's claim element c) wherein the command includes three address bits, four group



bits and one data bit. Since anticipation requires identical disclosure of the claimed element, this deficiency also renders the rejection of claim 20 as anticipated by Tanner improper.

**Independent Claims 1 and 11**

The elements of independent claims 1 and 11 are also not identically disclosed by Tanner for different subsets of the reasoning set forth above with respect to claim 20. Specifically claim 1 recites “wherein a first portion of said model railroad layout is displayed using a first visual characteristic and a second portion of said model railroad layout is displayed using a second visual characteristic, wherein said first portion is selected to allow train movement thereon, and wherein said second portion is deselected to prevent train movement thereon.” This feature is not disclosed in Tanner, as described above with respect to claim 20. Claim 11 recites “wherein said plurality of addressable units includes a set of decoders and a plurality of addressable registers, and wherein said command includes three address bits, four group bits and one data bit.” This feature is also not disclosed in Tanner, as described above with respect to claim 20.

**Dependent Claims 14, 15, 18 and 19**

Each of the dependent claims 14, 15, 18 and 19 also include elements not disclosed in Tanner, nor were sections of Tanner specifically cited by the Examiner to support the position that Tanner allegedly anticipates these claims. For claim 14, Tanner does not disclose a triac connected to each of the resistors in a resistor bank. For claim 15, Tanner does not disclose a coil latching relay connected to each of said plurality of addressable registers. For claim 18, Tanner does not disclose wherein editing comprises the steps of:

identifying a graphic type associated with a type of model railroad track to be edited; and providing a list of editing functions based on the type of track to be edited, wherein said list includes a joining function if said track to be edited is a turnout section, a change length function if said track to be edited is a straight section and a trim function if said track to be edited is a curved section. For claim 19, Tanner does not disclose wherein said first visual characteristic is green; and said second visual characteristic is red.

**Conclusions to Arguments**

For at least the foregoing reasons, it is respectfully submitted that the claims are not anticipated by the applied Tanner patent. Claims 2-10 and 13 stand rejected under 35 U.S.C. § 102(b) over Tanner et al. It is respectfully submitted that these dependent claims are allowable for at least the reasons set forth above with respect to the independent claims from which they depend.

For at least the foregoing reasons, it is respectfully submitted that the claims are patentable over the documents cited. Accordingly, it is respectfully requested that the Final Rejection in the Official Action of July 26, 2005 be REVERSED.

Respectfully submitted,

POTOMAC PATENT GROUP PLLC

By:



Steven M. duBois  
Registration No. 35,023

Date: December 22, 2005

(viii) CLAIMS APPENDIX

1. A software program stored on a computer-readable medium for monitoring and controlling a model railroad, said software program operable to perform the steps of:  
displaying a representation of said model railroad layout on a display wherein a first portion of said model railroad layout is displayed using a first visual characteristic and a second portion of said model railroad layout is displayed using a second visual characteristic, wherein said first portion is selected to allow train movement thereon, and wherein said second portion is deselected to prevent train movement thereon; and  
editing said representation of said model railroad layout.
2. The software program of claim 1, wherein said step of editing said representation further comprises the step of:  
moving a track element within said representation of said model railroad layout.
3. The software program of claim 2, wherein said track element is one of a straight track piece, a turnout and a curved track piece.
4. The software program of claim 2, wherein said step of moving said track element further comprises the step of:  
rotating said track element.
5. The software program of claim 1, wherein said step of editing said representation further comprises the step of:  
joining two turnouts together, whereby said two turnouts can be controlled jointly.
6. The software program of claim 1, wherein said step of editing said representation further comprises the step of:  
changing a turnout element within said representation of said model railroad layout from a first position to a second position.

7. The software program of claim 6, further comprising the step of:  
outputting, responsive to said changing a turnout element step, a command to a motor associated with said turnout element in said model railroad layout, to switch said turnout element from said first position to said second position.

8. The software program of claim 7, wherein said command includes an address of associated with said turnout element and at least one data bit.

9. The software program of claim 1, wherein said step of editing said representation further comprises the steps of:  
creating a new element within said representation of said model railroad;  
assigning an address to said new element; and storing said address of said new element.

10. The software program of claim 1, further comprising the step of:  
outputting, responsive to said changing step, an addressed command to a an element within said model railroad layout that corresponds to an element which was changed within said representation.

11. An interface unit operable to translate a command received from a computer into a motor control command for controlling at least one element within a model railroad system, said interface comprising:

a plurality of addressable units for receiving address information and data information within said command, wherein one of said plurality of addressable units that corresponds to said address information within said command translates said data information into said motor control command and outputs said motor control command, wherein said plurality of addressable units includes a set of decoders and a plurality of addressable registers, and wherein said command includes three address bits, four group bits and one data bit.

12. (Cancelled)
13. The interface unit of claim 11, further comprising:  
a resistor bank connected to each of said plurality of addressable registers.
14. The interface unit of claim 13, further comprising:  
a triac connected to each of said resistors in said resistor bank.
15. The interface unit of claim 11, further comprising:  
a coil latching relay connected to each of said plurality of addressable registers.
16. (Cancelled)
17. (Cancelled)
18. The software program of claim 1, wherein editing comprises the steps of:  
identifying a graphic type associated with a type of model railroad track to be edited;  
and  
providing a list of editing functions based on the type of track to be edited, wherein  
said list includes a joining function if said track to be edited is a turnout section, a change  
length function if said track to be edited is a straight section and a trim function if said track  
to be edited is a curved section.
19. The software program of claim 1, wherein said first visual characteristic is  
green; and  
said second visual characteristic is red.
20. A model railroad system comprising:  
a graphical user interface displaying a representation of said model railroad system on  
a display, wherein a first portion of said model railroad layout is displayed using a first visual

characteristic and a second portion of said model railroad layout is displayed using a second visual characteristic, wherein said first portion is selected to allow train movement thereon, and wherein said second portion is deselected to prevent train movement thereon;

said graphical user interface including an editing function that selectively permits a user to, rotate, move, delete and join a track portion based on a type of track portion which is selected; and

an interface unit controlled by said graphical user interface to translate a command received from a computer into a motor control command for controlling at least one element within a model railroad system, said interface unit including:

a plurality of addressable units for receiving address information and data information within said command, wherein one of said plurality of addressable units that corresponds to said address information within said command translates said data information into said motor control command and outputs said motor control command, wherein said plurality of addressable units includes a set of decoders and a plurality of addressable registers, and wherein said command includes three address bits, four group bits and one data bit.

(ix) EVIDENCE APPENDIX

None.

(x) RELATED PROCEEDINGS APPENDIX

None.